Claims:

1. A method for determining the Volume Scattering Function (VSF) of ocean waters in backward direction using a satellite ocean color sensor, said method comprising the steps of:

   (a) obtaining satellite view angle (θ_{sat}), solar angle (θ_s), remote sensed reflectance [Rrs (θ_p, λ)] and diffuse attenuation coefficient (K_d) at each ocean pixel on a scaline using a satellite ocean color sensor;

   (b) calculating corrected look angle of a pixel of satellite ocean color sensor on an ocean pixel using:

   $$\theta_p = \theta_{sat} + \sin^{-1}(0.113 \tan \theta_{sat}); \text{ and}$$

   (c) calculating the Volume Scattering Function of ocean waters in the backward direction at a given wavelength [$\beta(\psi, \lambda)$] using:

   $$\beta(\psi, \lambda) = Rrs(\theta_p, \lambda) K_d [\cos\theta_s \cos\theta_p]$$

2. A method as claimed in claim 1, wherein the satellite ocean color sensors include CCD array detectors, ocean color monitors and SeaWifs Oocean color sensors.

3. A method as claimed in claim 1, wherein the detectors view a scan line of ocean pixels arranged along a swath of the ocean surface.

4. A method as claimed in claim 1, wherein the swath "W" of the satellite is about 1420 Kms.

5. A method as claimed in claim 1, wherein the about 3730 ocean pixels are covered in a satellite scan line.

6. A method as claimed in claim 1, wherein Instantaneous Field of View (IFOV) of an ocean pixel about 360 meters across track and about 250 meters along track.

7. A method as claimed in claim 1, wherein the Volume Scattering Function of ocean waters in the backward direction is dependent upon the wavelength (λ).

8. A method as claimed in claim 1, wherein the Volume Scattering Function of ocean waters in the backward direction is obtained at a particular wavelength using appropriate wavelength depenedent products of remote sensed reflectance and diffuse attenuation coefficient.

9. A method as claimed in claim 1, wherein the Volume Scattering Function of ocean waters in the backward direction is obtained at the wavelength of about 490 nm.

10. A method as claimed in claim 1, wherein the method can be extended to contiguous scan lines along the satellite track to generate a high resolution two dimensional volume scattering surface at fixed backscattering angles.

11. A method as claimed in claim 1, wherein the method can be extended to create a set of two dimensional volume scattering surfaces in several different visible bands by the satellite ocean color sensor.